

Preliminary Course Outline

Day One

- 8:00 Welcome and Course Description**
- 8:15 Introduction to Permeable Reactive Barriers for Remediating and Managing Contaminated Groundwater In Situ**
- 8:45 Reactive Materials I—Zero-Valent Iron (and Other Metals): Use and Implementation**
- 9:45 Reactive Materials II—Nonmetallic Reactive Materials for Promoting Sorption and Biologically Enhanced Treatment in PRBs**
- 10:30 Emplacement Techniques**
- 11:15 Economic Considerations—Cost/Benefit Analysis for PRBs**
- 11:45 Case Study Presentation (Working Lunch)**
- 1:10 Summary of Morning Session**
- 1:15 Collection and Interpretation of Design Data I—Field Characterization**
- 2:15 Collection and Interpretation of Design Data II—Laboratory and Pilot-Scale Tests**
- 3:30 Permitting and Compliance Monitoring**
- 4:15 Performance Monitoring/Long-term Maintenance**
- 5:15 Summary of Day One**

Day Two

- 8:00 Summary of Day One and Introduction to Day Two**
- 8:15 PRB Implementation and Construction**
- 9:15 Open Discussion**
- 10:00 Exercise—Design and Implementation of a PRB**
- 11:00 Wrap-up, Discussion, and Adjournment**

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United States
Environmental Protection Agency

Solid Waste and
Emergency Response (5102G)

EPA/542/F-99/004 February 1999

EPA In Situ Permeable Reactive Barriers: Application and Deployment



Training Course

June 22–23, 1999
Boston, MA

August 10–11, 1999
Seattle, WA

September 21–22, 1999
Philadelphia, PA

November 16–17, 1999
Dallas, TX

February 8–9, 2000
Atlanta, GA

March 21–22, 2000
San Francisco, CA

May 2–3, 2000
New York, NY

June 13–14, 2000
Denver, CO

July 25–26, 2000
Chicago, IL

September 12–13, 2000
Kansas City, MO

Sponsored by:

U.S. Environmental Protection
Agency (EPA)
Technology Innovation Office (TIO)
National Risk Management Research
Laboratory (NRMRL)

Interstate Technology Regulatory
Cooperation (ITRC)

Remediation Technologies Development
Forum (RTDF)

Permeable Reactive Barriers Training Series
Attn: Gloyce Brackett
Southern States Energy Board
6325 Amherst Court
Norcross, GA 30092

PLACE
POSTAGE
HERE

Purpose

Permeable reactive barriers are one of the most exciting new developments in treating contaminated ground-water. Their rapid deployment has created a demand for more information on their effectiveness and cost as well as remaining implementation issues. EPA's National Risk Management Research Laboratory, Subsurface Protection and Remediation Division, and the Technology Innovation Office, in cooperation with the Remediation Technologies Development Forum and the Interstate Technology Regulatory Cooperation Work Group, have developed a 1 1/2-day training course on the use of permeable reactive barriers for remediating and managing contaminated groundwater. Training sessions will be held in ten EPA regional cities throughout the country between June 1999 and September 2000.

Audience

The training course is designed to assist professionals in the regulatory community in overseeing the design, implementation, and monitoring of groundwater remedies that involve the deployment of permeable reactive barriers. Industry professionals and consultants will benefit from the updated technical information presented as well as the interaction with regulators and other professional colleagues.

Registration

Mail the attached registration form to SSEB, Attn: Cloyce Brackett, 6325 Amherst Court, Norcross, GA 30092
Fax the attached registration form to 770-242-0421
Register via the Internet at <http://www.trainex.org/prb>

Fee and Cancellation Policy

Fees include a student manual, continental breakfast on both days, and a working lunch on Day One. Early registration fee is \$450. In order for you to qualify for this fee, we must receive your reply form and payment 6 weeks prior to the training session you are attending. The registration fee is \$500. The fee will be waived for government and nonprofit participants. If you must cancel, you will be refunded fully if you notify us 1 month prior to your session.

Seminar Agenda

The meeting will begin at 8:00 a.m. and adjourn at 5:30 p.m. on Day One. On Day Two the meeting will begin at 8:00 a.m. and adjourn at 12:00 noon. Preregistration will begin at 7:30 a.m. at each location. A detailed agenda will be provided in the confirmation package.

Workshop Space Limitation

Space available is limited to 150 participants: 50 slots will be reserved for private sector registrants and 100 slots reserved for nonprofit registrants and registrants from state and federal agencies.

Hotel Information

A block of rooms has been reserved at each of the following hotels. These rooms will be issued on a first-come, first-served basis and held until the cutoff dates indicated below. Reserve rooms directly with the hotel, and reference the "EPA PRB Seminar" to receive the special room rate.

Training Course Locations

Boston, MA June 22–23, 1999

The Boston Park Plaza Hotel

64 Arlington Street

Boston, MA 02116

617-426-2000

Cutoff date for reservations: May 22

Rate: \$105 single/double (plus 12.45% tax)

Seattle, WA August 10–11, 1999

Sheraton Tacoma Hotel

1320 Broadway Plaza

Tacoma, WA 98402

253-572-3200

Cutoff date for reservations: July 19

Rate: \$54 single/\$74 double (plus 13.4% tax) government

\$80 single/double (plus 13.4% tax) non-government

Philadelphia, PA September 21–22, 1999

Philadelphia Marriott

1201 Market Street

Philadelphia, PA 19107

215-625-2900

Cutoff date for reservations: August 23

Rate: \$113 single/\$133 double (plus 13% tax)

Dallas, TX November 16–17, 1999

Hyatt Regency Dallas

300 Reunion Boulevard

Dallas, TX 75207

214-651-1234

Cutoff date for reservations: October 15

Rate: \$89 single/\$114 double (plus 15% tax)

UPCOMING LOCATIONS IN THE YEAR 2000

Atlanta, GA February 8–9, 2000

San Francisco, CA March 21–22, 2000

New York, NY May 2–3, 2000

Denver, CO June 13–14, 2000

Chicago, IL July 25–26, 2000

Kansas City, MO September 12–13, 2000

Trainers

Rich Landis is a Development Engineer for E.I. du Pont de Nemours and Company with over 19 years of engineering experience and participates on 3 RTDF Action Teams (PRB steering committee, Lasagna, and Sediments). For the past 8 years, he has focused on developing and applying in-situ, containment and sediment remedial technologies.

Robert Puls, Ph.D., Senior Soil Scientist, U.S. EPA, National Risk Management Research Laboratory. Dr. Puls is Chief of the Subsurface Remediation Branch, NRMRL-Ada, and Co-Chair of the RTDF Action Team on Permeable Reactive Barriers. Dr. Puls has more than 20 years of experience in environmental research and has been actively involved in permeable reactive barrier research and development since 1992.

Matthew Turner, Site Remediation Case Manager, New Jersey Department of Environmental Protection. Mr. Turner is the Team Leader of the ITRC Permeable Barrier Walls Team as well as an RTDF Steering Committee Member.

John Vidumsky, P.E., E.I. du Pont de Nemours and Company. Mr. Vidumsky is a Professional Engineer with 20 years of experience in the environmental services and chemical industries. He is currently with the DuPont Company's Corporate Remediation Group in Wilmington, DE. Mr. Vidumsky serves as the Industry Co-Chairperson of the RTDF Permeable Barriers Action Team, and is also active in the RTDF Bioremediation of Chlorinated Solvents Consortium.

John Vogan of EnviroMetal Technologies Inc. has been involved in research and commercial applications of permeable reactive barrier technology for the past eight years.

Scott Warner, Senior Hydrogeologist, Geomatrix Consultants, Inc. Mr. Warner is a California Certified Hydrogeologist and Engineering Geologist and RTDF steering committee member with more than 8 years of experience in permeable reactive barrier design and implementation.

Questions

If you have questions regarding this training course, please contact the following individuals:

Registration Questions: Cloyce Brackett or Kimberly Sams, Southern States Energy Board, by phone at 770-242-7712 or by e-mail to brackett@sseb.org.

Course Details: Brian Ellis, Coleman Federal, 208-375-9896 or e-mail to btellis@uswest.net or Scott Warner, Geomatrix Consultants, Inc., 415-434-1365 fax or e-mail to swarner@geomatrix.com

ADA Requests

If you have special needs and require auxiliary aids and/or services to fully participate in this seminar, please contact Lauren Lariviere at 781-674-7272 at least 4 weeks prior to the start date of your course.

Training Series Registration Form

In Situ Permeable Reactive Barriers: Application and Deployment

Please register me for the following training:

- | | |
|---|---|
| <input type="checkbox"/> June 22–23, 1999
<i>Boston, MA</i> | <input type="checkbox"/> September 21–22, 1999
<i>Philadelphia, PA</i> |
| <input type="checkbox"/> August 10–11, 1999
<i>Seattle, WA</i> | <input type="checkbox"/> November 16–17, 1999
<i>Dallas, TX</i> |

A registration brochure with final details for the Training Series in 2000 will be available in the fall of 1999.

Affiliation:

- | | |
|---|--------------------------------------|
| <input type="checkbox"/> U.S. EPA | <input type="checkbox"/> Vendor |
| <input type="checkbox"/> Other federal agency | <input type="checkbox"/> Industry |
| <input type="checkbox"/> State agency | <input type="checkbox"/> Contractor |
| <input type="checkbox"/> Academia | <input type="checkbox"/> Other _____ |

Name _____

Title _____

Organization _____

Address/Mail Code _____

City/State/Zip Code _____

Telephone _____ Fax _____

E-Mail _____

Registration fee (check only one):

- | |
|---|
| <input type="checkbox"/> Private Sector (early registration): \$450 |
| <input type="checkbox"/> Private Sector: \$500 |
| <input type="checkbox"/> Nonprofit: No Fee |
| <input type="checkbox"/> Government: No Fee |

Please make checks payable to:

Southern States Energy Board
(Sorry, no credit cards accepted.)

Mail to:

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Register online via <http://www.trainex.org/prb>